PART 70 OPERATING PERMIT
OFFICE OF AIR QUALITY

Doorcraft of Indiana
2526 North Western Avenue
Plymouth, Indiana 46563

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T099-6061-00004	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Quality	Issuance Date: February 15, 2000 Expiration Date: February 15, 2005

First Administrative Amendment 099-12170-00004	Issuance Date: May 1, 2000

Second Administrative Amendment 099-12584-00004	Issuance Date: August 31, 2000

Third Administrative Amendment 099-12904-00004	Issuance Date: December 18, 2000

First Significant Source Modification: 099-13603-00004	Pages Affected: 5, 6, 28, 29, 30, 30a, 37
Original signed by Paul Dubenetzky Issued by: Paul Dubenetzky, Permits Branch Chief Office of Air Quality	Issuance Date: May 4, 2001

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary plant to mill and surface coat wood doors.

Responsible Official:	Jeff Schultz
Source Address:	2526 North Western Avenue, Plymouth, Indiana 46563-1000
Mailing Address:	2526 North Western Avenue, Plymouth, Indiana 46563-1000
SIC Code:	2431
County Location:	Marshall County
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Minor, under PSD; Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

Two (2) surface coating operations for coating wood products identified as follows:

(1) EU-01 stationary spray booth, constructed in 1959, with HVLP, air, and airless spray guns and a maximum capacity of coating 312.5 doors per hour, with dry filters for particulate control, exhausting to stack vent S-7 and a rollcoating line for adhesive application with a maximum capacity of coating 358.5 doors per hour, exhausting to G.V.

(2) (a) EU-02 rollcoating line, constructed in 1970, consisting of three spray booths, identified as SB-2, SB-3 and SB-4. SB-2 and SB-3 have a maximum capacity of coating 23,250 square feet per hour, exhausting to stack vent S-1, 2, 4, 5, 6, and G.V.

OR

(b) One (1) surface coating spray booth, identified as Spraybooth #1, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as S2;

(c) One (1) surface coating spray booth, identified as Spraybooth #2, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as S-4;

(d) One (1) surface coating spray booth, identified as Spraybooth #3, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as OS-09;

(e) One (1) surface coating spray booth, identified as Spraybooth #4, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as S-6; and

(3) One (1) dual direction index printer, utilizing a roll coating application system, coating a maximum of 10,672 square feet of wood doors per hour.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(1) A natural gas combustion unit with heat input equal to or less than ten million (10,000,000) Btu per hour including:

One (1) 6.9 mmBtu per hour natural gas fired boiler.

(2) Woodworking, identified as EU-05 with one (1) baghouse for particulate control with an air flow rate no greater than 125,000 cubic feet of air per minute and a grain loading no greater than 0.003 grain per dry standard cubic feet of outlet air.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] Two (2) surface coating operations for coating wood products identified as follows:

(1) EU-01 stationary spray booth, constructed in 1959, with HVLP, air, and airless spray guns and a maximum capacity of coating 312.5 doors per hour, with dry filters for particulate control, exhausting to stack vent S-7 and a rollcoating line for adhesive application with a maximum capacity of coating 358.5 doors per hour, exhausting to G.V.

(2) (a) EU-02 rollcoating line, constructed in 1970, consisting of three spray booths, identified as SB-2, SB-3 and SB-4. SB-2 and SB-3 have a maximum capacity of coating 23,250 square feet per hour, exhausting to stack vent S-1, 2, 4, 5, 6, and G.V.

OR

(b) One (1) surface coating spray booth, identified as Spraybooth #1, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as S2;

(c) One (1) surface coating spray booth, identified as Spraybooth #2, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as S-4;

(d) One (1) surface coating spray booth, identified as Spraybooth #3, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as OS-09;

(e) One (1) surface coating spray booth, identified as Spraybooth #4, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as S-6; and

(3) One (1) dual direction index printer, utilizing a roll coating application system, coating a maximum of 10,672 square feet of wood doors per hour.

The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Particulate Matter (PM) [326 IAC 6-3-2(c)]

(a) Pursuant to 326 IAC 6-3-2(c)The PM from the four (4) surface coating booths shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

(b) The particulate matter (PM) from the four spray booths (identified as Spraybooth #1, Spraybooth #2, Spraybooth #3 and Spraybooth #4) shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

D.1.2 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements), the Best Available Control Technology (BACT) for the four (4) surface coating spray booths, identified as Spraybooth #1, Spraybooth #2, Spraybooth #3 and Spraybooth #4 shall be the following work practices and limitation:

a) Doorcraft will not emit volatile organic compounds from the coating line in excess of 6.0 lbs/1,000 sq. ft. of coated finished products regardless of the number of coats applied.

b) Doorcraft shall apply all coating material, with the exception of no more than ten (10) gallons of coating per day used for touch-up and repair operations, using one or more of the following application systems:

Airless spray application system
Air-assisted airless spray application system
Electrostatic spray application system
Electrostatic bell or disc application system
Heated airless spray application system

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

c) Doorcraft must operate the spray booths with a detection system to prevent spraying when a doorskin is not beneath the spray guns.

d) Doorcraft operations involving the proposed spray booths and index printer (while using the coating line for spraying) will not emit volatile organic compounds in excess of 65 tons per twelve (12) consecutive month period.

D.1.3 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

The VOC emissions from the entire source shall be limited to 249 tons of VOC, including coatings, dilution solvents, and cleaning solvents, per 12 consecutive month period. This limit is required to limit the potential to emit of VOC to less than 250 tons per 12 consecutive month period. Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.

D.1.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and any control devices.

Compliance Determination Requirements

D.1.5 Testing Requirements [326 IAC 2-7-6(1), (6)]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the particulate matter (PM) and volatile organic compound (VOC) limits specified in Conditions D.1.1 and D.1.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.1.6 Volatile Organic Compounds (VOC)

Compliance with the VOC content and usage limitations contained in Condition D.1.2 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.1.7 VOC Emissions

Compliance with Condition D.1.2 shall be demonstrated within thirty (30) days of the end of each month based on the total volatile organic compound usage for the most recent twelve (12) month period.

D.1.8 Particulate Matter (PM)

(a) The dry filters for PM control shall be in operation at all times when the spray booths are in operation.

(b) The dry filters shall be in operation at all times the four spray booths (Spraybooth #1, Spraybooth #2, Spraybooth #3 and Spraybooth #4) are in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.9 Monitoring

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks while one or more of the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a

noticeable change in overspray emissions, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.10 Record Keeping Requirements

(a) To document compliance with Condition D.1.2, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.1.2.

(1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(2) A log of the month of use;

(3) The volume weighted VOC content of the coatings used for each month;

(4) The cleanup solvent usage for each month;

(5) The total VOC usage for each month; and

(6) The weight of VOCs emitted for each compliance period.

(2) To document compliance with Condition D.1.8, the Permittee shall maintain a log of weekly overspray observations, daily and monthly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.11 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.2(d) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Doorcraft of Indiana
Source Address: 2526 North Western Avenue
Mailing Address: Plymouth, Indiana 46563
Source Modification No.: T099-13603-00004
Facility: Four (4) surface coating spray booths (Spraybooth #1, Spraybooth #2, Spraybooth #3 and Spraybooth #4)
Parameter: VOCs
Limit: VOC usage not to exceed 65 tons per twelve (12) consecutive month period

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	VOC usage (tons/month)	VOC usage for (tons/Previous 11 Months)	VOC usage for (tons/12 Month Total)
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the
Technical Support Document for a Significant Source Modification to a Part 70 Operating Permit

Source Name:	Doorcraft of Indiana
Source Location:	2526 North Western Avenue, Plymouth, IN 46563
County:	Marshall
SIC Code:	2431
Operation Permit No.:	SSM099-13603-00004
Permit Reviewer:	NH/EVP

On March 24, 2001, the Office of Air Quality (OAQ) had a notice published in the Plymouth Pilot News, Plymouth, Indiana, stating that Doorcraft of Indiana had applied for a Significant Source Modification to their existing Part 70 permit for the addition of four new spray booths and a new index printer to their existing wood door milling and surface coating manufacturing plant. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On April 12, 2001, Patty Richardson, Air Quality Program Manager of Jeld-Wen (owner of Doorcraft of Indiana) submitted comments on behalf of Doorcraft of Indiana on the proposed Significant Source Modification. The summary of the comments and corresponding responses is as follows (bolded language has been added and language with a line through it has been deleted):

Comment 1

Section A.1
Responsible official should be Jeff Schultz. This was changed in Administrative Amendment number 2 and approved. Please make sure this name appears on all future correspondence.

Response 1

The responsible official has been changed in Section A.1.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary plant to mill and surface coat wood doors.

Responsible Official:	~~Mr. Bill O'Dell~~ **Jeff Schultz**
Source Address:	2526 North Western Avenue, Plymouth, Indiana 46563-1000
Mailing Address:	2526 North Western Avenue, Plymouth, Indiana 46563-1000
SIC Code:	2431
County Location:	Marshall County
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Minor, under PSD; Major Source, Section 112 of the Clean Air Act

Comment 2

Section A.2
The listing of the sources is confusing here. There are two coating operations, EU-1 and EU-2 with 2 operating scenarios. We would like to suggest the following designation:
A.2 Emissions Units and Pollution Control Summary [326 IAC 2-7-4(c)(3)]

This stationary source consists of the following two surface coatings operations for coating wood products identified as follows:

(1) EU-1 stationary spray booth.....(continue as written)
(2) (a) EU-2 rollcoating line.....(continue as written)
(b) One (1) surface coating line.....(continue as written)
(c)
(d)
(e)

The context of the writing is correct, but the numerical designation for the units needs to reflect there are two main emissions units, EU-2 having an alternative operating scenario of the four new added spraybooths.

Response 2

The following changes have been made to Section A.2.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)]
[326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

~~(1)~~ Two (2) surface coating operations for coating wood products identified as follows:

(1) ~~(a)~~ EU-01 stationary spray booth, constructed in 1959, with HVLP, air, and airless spray guns and a maximum capacity of coating 312.5 doors per hour, with dry filters for particulate control, exhausting to stack vent S-7 and a rollcoating line for adhesive application with a maximum capacity of coating 358.5 doors per hour, exhausting to G.V.

(2) (~~b~~**a**) EU-02 rollcoating line, constructed in 1970, consisting of three spray booths, identified as SB-2, SB-3 and SB-4. SB-2 and SB-3 have a maximum capacity of coating 23,250 square feet per hour, exhausting to stack vent S-1, 2, 4, 5, 6, and G.V.

OR

(~~2~~**b**) One (1) surface coating spray booth, identified as Spraybooth #1, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as S2;

(~~3~~**c**) One (1) surface coating spray booth, identified as Spraybooth #2, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control,

and exhausting through one (1) stack, identified as S-4;

(~~4~~**d**) One (1) surface coating spray booth, identified as Spraybooth #3, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as OS-09;

(~~5~~**e**) One (1) surface coating spray booth, identified as Spraybooth #4, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as S-6; and

(~~6~~**3**) One (1) dual direction index printer, utilizing a roll coating application system, coating a maximum of 10,672 square feet of wood doors per hour.

Comment 3

Section D

Again, the designations here do not indicate that the four new booths and printer are an alternate operating scenario to EU-2. It states there are two surface coating operations, but the designation of (a)-(g) makes it look like there are 7 different operations.

Response 3

The following changes have been made to the facility description box in Section D.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] Two (2) surface coating operations for coating wood products identified as follows:

(~~a~~**1**) EU-01 stationary spray booth, constructed in 1959, with HVLP, air, and airless spray guns and a maximum capacity of coating 312.5 doors per hour, with dry filters for particulate control, exhausting to stack vent S-7 and a rollcoating line for adhesive application with a maximum capacity of coating 358.5 doors per hour, exhausting to G.V.

(~~b~~**2**) **(a)** EU-02 rollcoating line, constructed in 1970, consisting of three spray booths, identified as SB-2, SB-3 and SB-4. SB-2 and SB-3 have a maximum capacity of coating 23,250 square feet per hour, exhausting to stack vent S-1, 2, 4, 5, 6, and G.V.

OR

(~~c~~**b**) One (1) surface coating spray booth, identified as Spraybooth #1, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as S2;

(~~d~~**c**) One (1) surface coating spray booth, identified as Spraybooth #2, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as S-4;

(~~e~~**d**) One (1) surface coating spray booth, identified as Spraybooth #3, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as OS-09;

(~~f~~**e**) One (1) surface coating spray booth, identified as Spraybooth #4, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as S-6; and

(~~g~~**3**) One (1) dual direction index printer, utilizing a roll coating application system, coating a maximum of 10,672 square feet of wood doors per hour.

The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.

Comment 4

Technical Support Document
Under the PTE for Existing Sources the HAPs Table and all references to xylene, toluene, formaldehyde, ethylbenzene and MEK should be removed. These were from the past storage of materials in underground storage tanks that have been decommissioned. There should be letters in the file to the state which describes this. It seems the list of HAPs should reflect only current or proposed product usage.

Response 4

Doorcraft of Indiana was issued a Part 70 permit (T099-6061-00004) on February 15, 2000. Since the issuance of their Part 70 operating permit, Doorcraft of Indiana has switched to water-based coatings. The "Potential to Emit of Existing Source" table in the technical support document reflects HAP emissions from solvent based coatings. Thus, the HAP's emission table will be deleted.

The following revisions have been made to the Technical Support Document under the Potential to Emit of Existing Source section (**bolded** language has been added, the language with a ~~line~~ through it has been deleted). The OAQ prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

Potential to Emit of Existing Source

Pollutant	Potential To Emit (tons/year)
PM	2.327
PM-10	2.327
SO_2	0.00
VOC	548.082
CO	0.00
NO_x	0.00

~~HAP's~~	~~Potential To Emit (tons/year)~~
~~Xylene~~	~~105.53~~
~~Toluene~~	~~27.32~~
~~Formaldehyde~~	~~1.75~~
~~Ethylbenzene~~	~~15.39~~
~~MEK~~	~~15.31~~
~~TOTAL~~	~~165.3~~

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Significant Source Modification to a Part 70 Operating Permit

Source Background and Description

Source Name:	Doorcraft of Indiana
Source Location:	2526 North Western Avenue, Plymouth, IN 46563
County:	Marshall
SIC Code:	2431
Operation Permit No.:	T099-6061-00004
Operation Permit Issuance Date:	February 15, 2000
Significant Source Modification No.:	SSM099-13603-00004
Significant Permit Modification No.:	SPM099-14079-00004
Permit Reviewer:	NH/EVP

The Office of Air Quality (OAQ) has reviewed a modification application from Doorcraft of Indiana relating to the construction and operation of a wood door milling and surface coating manufacturing plant.

History

On December 8, 2000, Doorcraft of Indiana submitted an application to the OAQ requesting to add four new spray booths and a new index printer to their existing wood door milling and surface coating manufacturing plant. The four new spray booths will replace the portable spray booth (SB-4) which was constructed in 1993 and permitted under a Part 70 operating permit (T099-6061-00004). Doorcraft of Indiana was issued a Part 70 permit (T099-6061-00004) on February 15, 2000. Since the issuance of their Part 70 operating permit, Doorcraft of Indiana has switched to water-based coatings. The source is requesting a federally enforceable VOC emission limit of 249 tons per year and redesignation as a true minor source.

New Emission Units and Pollution Control Equipment Receiving Prior Approval

The application includes information relating to the prior approval for the construction and operation of the following equipment pursuant to 326 IAC 2-7-5(16):

(a) One (1) surface coating spray booth, identified as Spraybooth #1, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as S2;

(b) One (1) surface coating spray booth, identified as Spraybooth #2, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through

one (1) stack, identified as S-4;

(c) One (1) surface coating spray booth, identified as Spraybooth #3, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as OS-09;

(d) One (1) surface coating spray booth, identified as Spraybooth #4, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as S-6; and

(e) One (1) dual direction index printer, utilizing a roll coating application system, coating a maximum of 10,672 square feet of wood doors per hour.

Existing Approvals

The source was issued a Part 70 Operating Permit T099-6061-00004 on February 15, 2000. The source has since received the following:

(a) First Administrative Amendment No.: 099-12170-00004, issued on May 1, 2000;

(b) Second Administrative Amendment No.: 099-12584-00004, issued on August 31, 2000; and

(c) Third Administrative Amendment No.: 099-12904-00004, issued on December 18, 2000.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
S-4	Sparybooth #2	30	18"	3385	70
S2	Spraybooth #1	30	18"	3385	70
S-6	Spraybooth #4	30	18"	4500	70
OS-09	Spraybooth #3	30	18"	3385	70

Recommendation

The staff recommends to the Commissioner that the Significant Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on December 8, 2000 with additional information received on March 6, 2001.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (Appendix A, pages 1 through 2).

Potential To Emit Before Controls (Modification)

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

Pollutant	Potential To Emit (tons/year)
PM	506.20
PM-10	506.20
SO_2	0.00
VOC	189.10
CO	0.00
NO_x	0.00

HAP's	Potential To Emit (tons/year)
Glycol Ethers	1.31
TOTAL	1.31

Justification for Modification

The Part 70 Operating permit is being modified through a Part 70 Significant Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(f)(4) because the source has the potential to emit PM10 and VOC greater than 25 tons per year. This modification will give the source approval to construct the new emission units. A Significant Permit Modification will be issued and will incorporate the source modification into the Part 70 permit and give the source approval to operate the new emission units.

County Attainment Status

The source is located in Marshall County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Marshall County has been designated as attainment or unclassifiable for ozone.

Potential to Emit After Controls for the Modification

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units for the modification.

	Potential to Emit (tons/year)							
Process/facility	PM	PM-10	SO_2	VOC	CO	NO_X	Single HAP	HAPs
Spraybooth #1, Spraybooth #2, Spraybooth #3, Spraybooth #4 and Printer	2.53	2.53	0.00	65.00	0.00	0.00	1.31	1.31
Total Emissions	2.53	2.53	0.00	65.00	0.00	0.00	1.31	1.31
Total Source	<250	<250	<250	<250	<250	<250	n/a	n/a

This source is now a minor stationary source due to the change in coatings from solvent based to water based even with the addition of the four (4) spraybooths and printer. Therefore, pursuant to 326 IAC 2-2 and 40 CFR 52.21, the PSD requirements do not apply.

Potential to Emit of Existing Source

Pollutant	Potential To Emit (tons/year)
PM	2.327
PM-10	2.327
SO_2	0.00
VOC	548.082
CO	0.00
NO_x	0.00

HAP's	Potential To Emit (tons/year)
Xylene	105.53
Toluene	27.32
Formaldehyde	1.75
Ethylbenzene	15.39
MEK	15.31
TOTAL	165.3

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60)

applicable to this source.

(b) The four (4) spraybooths (identified as Spraybooth #1, Spraybooth #2, Spraybooth #3 and Spraybooth #4) are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), Subpart JJ because the product is indoor/outdoor walk through doors, which are not considered furniture.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of VOC. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from the four spray booths (identified as Spraybooth #1, Spraybooth #2, Spraybooth #3 and Spraybooth #4) shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The dry filters shall be in operation at all times the four spray booths (Spraybooth #1, Spraybooth #2, Spraybooth #3 and Spraybooth #4) are in operation, in order to comply with this limit.

326 IAC 8-2

There are no 326 IAC 8 rules applicable to the (1) dual direction index printer because potential emissions of VOC are less than 15 pounds per day and the facility is located in Marshall County.

326 IAC 8-2-10 (Flat Wood Panels; manufacturing operations)

The four (4) spray booths (identified as Spraybooth #1, Spraybooth #2, Spraybooth #3 and Spraybooth #4) are not subject to this rule because the doors are six or less panel doors, which does not make them flat.

326 IAC 8-2-12 (Wood Furniture and Cabinet coating)

The four (4) spray booths (identified as Spraybooth #1, Spraybooth #2, Spraybooth #3 and Spraybooth #4) are not subject to this rule because they are coating doors which are not considered furnishing.

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

Pursuant to 326 IAC 8-1-6, new facilities located anywhere in the state that were constructed on or after January 1, 1980, which have a potential to emit (PTE) VOC at 25 tons or more per year, and which are not otherwise regulated by another provision of Article 8, are subject to the rule requirements. The four (4) surface coating spray booths, identified as Spraybooth #1, Spraybooth #2, Spraybooth #3 and Spraybooth #4 have the potential to emit VOC above 25 tons per year.

The options considered in the BACT analysis were:

(1) Thermal Oxidation
(2) Carbon Adsorption
(3) Bio-filtration

Option (3) has been determined to be technically infeasible for the following reasons:

(3) Bio-filtration

Bio-filtration systems utilize microorganisms to consume VOC emissions. Bio-filtration systems require replacement bio-media, electricity, water and sewage usage. Bio-filtration works well for facilities with a steady continuous emission stream of organic compounds that are non-toxic to the organisms. Bio-filtration is not considered technically feasible for the Doorcraft facility due to the potentially long intermittent periods in which the spray booths may not be used or may be shut down for maintenance. With no emissions of VOCs to the bio-filtration system, the micro-organisms would not have an adequate food supply. Maintaining a healthy bio-media is crucial to having an efficient control system. If the microorganisms are not adequately maintained, the efficiency of the system could deteriorate. Additionally, the destruction efficiency of such a system may be 80% at best and would potentially create process wastewater disposal issues.

The technically feasible options are thermal oxidation and carbon adsorption. A cost analysis was performed to determine the economic feasibility of thermal oxidation and carbon adsorption. The cost analysis is based on potential VOC emissions of tons per year.

The tables below show the results of the cost analysis.

Capital Cost

Option	Base Price	Direct Cost	Indirect Cost	Total
Thermal Oxidation	$307,800	$92,340	$73,482	$473,622
Carbon Adsorption	$280,800	$84,240	$61,776	$426,816

Annual Operating, Maintenance & Recovery Cost

Option	Direct Cost	Indirect Cost	Recovery Cost	Total
Thermal Oxidation	$70,132	$22,900	$77,100	$170,132
Carbon Adsorption	$175,168	$34,793	$69,500	$279,461

Evaluation

Option	Potential Emissions (tons/yr)	Emissions Removed (tons/yr)	Control Efficiency (%)	$/ton removed
Thermal Oxidation	186.51	177.18	95	$960.22
Carbon Adsorption	186.51	177.18	95	$1577.27

Methodology:
Emissions removed = (potential emissions from spraybooths) * (control efficiency)
$/ton removed = total annual cost / emissions removed

The cost breakdown is as follows:

1. Capital Cost
   a) Base price: basic equipment and auxiliaries, instrumentation, freight and taxes
   b) Direct cost: foundations and supports, erection and handling, electrical, piping, insulation for ductwork, painting, building and site preparation
   c) Indirect cost: engineering costs, construction and filed expenses, contractor fees, startup, performance test and contingencies

2. Annual Cost
   a) Direct cost: raw materials (carbon for carbon adsorption), utilities (electricity, natural gas and compressed air for the thermal oxidizer and electricity for carbon adsorption), labor and replacement parts
   b) Indirect cost: overhead, property tax, insurance and administration
   c) Recovery cost (for 10 years life of the system at 10% interest rate)

Thus, Best Available Control Technology will be the following:

a) Doorcraft will not emit volatile organic compounds from the coating line in excess of 6.0 lbs/1,000 sq. ft. of coated finished products regardless of the number of coats applied.

b) Doorcraft shall apply all coating material, with the exception of no more than ten (10) gallons of coating per day used for touch-up and repair operations, using one or more of the following application systems:

Airless spray application system
Air-assisted airless spray application system
Electrostatic spray application system
Electrostatic bell or disc application system
Heated airless spray application system

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates

between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

c) Doorcraft must operate the spray booths with a detection system to prevent spraying when a doorskin is not beneath the spray guns.

d) Doorcraft operations involving the proposed spray booths and index printer (while using the coating line for spraying) will not emit volatile organic compounds in excess of 65 tons per twelve (12) consecutive month period.

Compliance Requirements

Permits issued under 326 IAC 2-7are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

1. The four (4) spray booths (identified as Spraybooth #1, Spraybooth #2, Spraybooth #3 and Spraybooth #4) have applicable compliance monitoring conditions as specified below:

   (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating spray booth stacks (S2, S-4, OS-09 and S-6) while the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

   (b) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency

and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

These monitoring conditions are necessary because the dry filters for the surface coating spray booths (Spraybooth #1, Spraybooth #2, Spraybooth #3 and Spraybooth #4) must operate properly to ensure compliance with 326 IAC 6-3 (Process Operations) and 326 IAC 2-7 (Title V).

Changes Proposed

The source status is being changed from major to minor because the source is requesting redesignation as a true minor source.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary plant to mill and surface coat wood doors.

Responsible Official:	Mr. Bill O'Dell
Source Address:	2526 North Western Avenue, Plymouth, Indiana 46563-1000
Mailing Address:	2526 North Western Avenue, Plymouth, Indiana 46563-1000
SIC Code:	2431
County Location:	Marshall County
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program ~~Major~~ **Minor**, under PSD; Major Source, Section 112 of the Clean Air Act

The four (4) surface coating spray booths and the one (1) dual direction index printer have been added to Section A.2.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

(1) Two (2) surface coating operations for coating wood products identified as follows:

(a) EU-01 stationary spray booth, constructed in 1959, with HVLP, air, and airless spray guns and a maximum capacity of coating 312.5 doors per hour, with dry filters for particulate control, exhausting to stack vent S-7 and a rollcoating line for adhesive application with a maximum capacity of coating 358.5 doors per hour, exhausting to G.V.

(b) EU-02 rollcoating line, constructed in 1970, consisting of three spray booths, identified as SB-2, SB-3 and SB-4. SB-2 and SB-3 have a maximum capacity of

coating 23,250 square feet per hour, exhausting to stack vent S-1, 2, 4, 5, 6, and G.V. ~~The rollcoating line also includes a portable spray booth (SB-4), constructed in 1993, with airless spray guns with a maximum capacity of coating 13,340 square feet per hour, with dry filters for particulate control, exhausting to stack vent S-3.~~

(2) One (1) surface coating spray booth, identified as Spraybooth #1, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as S2;

(3) One (1) surface coating spray booth, identified as Spraybooth #2, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as S-4;

(4) One (1) surface coating spray booth, identified as Spraybooth #3, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as OS-09;

(5) One (1) surface coating spray booth, identified as Spraybooth #4, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as S-6; and

(6) One (1) dual direction index printer, utilizing a roll coating application system, coating a maximum of 10,672 square feet of wood doors per hour.

The four (4) surface coating spray booths and the one (1) dual direction index printer have been added to Section D.1.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] Two (2) surface coating operations for coating wood products identified as follows:

(a) EU-01 stationary spray booth, constructed in 1959, with HVLP, air, and airless spray guns and a maximum capacity of coating 312.5 doors per hour, with dry filters for particulate control, exhausting to stack vent S-7 and a rollcoating line for adhesive application with a maximum capacity of coating 358.5 doors per hour, exhausting to G.V.

(b) EU-02 rollcoating line, constructed in 1970, consisting of three spray booths, identified as SB-2, SB-3 and SB-4. SB-2 and SB-3 have a maximum capacity of coating 23,250 square feet per hour, exhausting to stack vent S-1, 2, 4, 5, 6, and G.V. ~~The rollcoating line also includes a portable spray booth (SB-4), constructed in 1993, with airless spray guns with a maximum capacity of coating 13,340 square feet per hour, with dry filters for particulate control, exhausting to stack vent S-3.~~

(c) One (1) surface coating spray booth, identified as Spraybooth #1, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as S2;

(d) One (1) surface coating spray booth, identified as Spraybooth #2, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as S-4;

(e) One (1) surface coating spray booth, identified as Spraybooth #3, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as OS-09;

(f) One (1) surface coating spray booth, identified as Spraybooth #4, utilizing a low pressure airless spray application system, coating a maximum of 10,672 square feet of wood doors per hour, with dry filters for particulate matter overspray control, and exhausting through one (1) stack, identified as S-6; and

(g) One (1) dual direction index printer, utilizing a roll coating application system, coating a maximum of 10,672 square feet of wood doors per hour.

The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.

Section D.1.1 has been revised to include the 326 IAC 6-3-2 limit for the four (4) spray booths (identified as Spraybooth #1, Spraybooth #2, Spraybooth #3 and Spraybooth #4).

D.1.1 Particulate Matter (PM) [326 IAC 6-3-2(c)]

(a) Pursuant to 326 IAC 6-3-2(c)The PM from the four (4) surface coating booths shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand

(60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

(b) The particulate matter (PM) from the four spray booths (identified as Spraybooth #1, Spraybooth #2, Spraybooth #3 and Spraybooth #4) shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

Section D.1.2 is being removed from the permit because the four (4) new spray booths will replace the portable spray booth (SB-4) which was constructed in 1993. 326 IAC 8-1-6 (BACT) for the four (4) new spray booths is being added as Condition D.1.2.

~~D.1.2 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]~~

~~When the portable spray booth (SB-4) is in operation, the spray booth shall be limited to 39.0 tons of VOC, including coatings, dilution solvents, and cleaning solvents, per 12 consecutive month period. This limit is required to limit the potential to emit of VOC to less than 40.0 tons per 12 consecutive month period. Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.~~

D.1.2 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements), the Best Available Control Technology (BACT) for the four (4) surface coating spray booths, identified as Spraybooth #1, Spraybooth #2, Spraybooth #3 and Spraybooth #4 shall be the following work practices and limitation:

a) Doorcraft will not emit volatile organic compounds from the coating line in excess of 6.0 lbs/1,000 sq. ft. of coated finished products regardless of the number of coats applied.

b) Doorcraft shall apply all coating material, with the exception of no more than ten (10) gallons of coating per day used for touch-up and repair operations, using one or more of the following application systems:

Airless spray application system
Air-assisted airless spray application system
Electrostatic spray application system
Electrostatic bell or disc application system
Heated airless spray application system

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

c) Doorcraft must operate the spray booths with a detection system to prevent spraying when a doorskin is not beneath the spray guns.

d) Doorcraft operations involving the proposed spray booths and index printer (while using the coating line for spraying) will not emit volatile organic compounds in excess of 65 tons per twelve (12) consecutive month period.

This source is now a minor stationary source due to the change in coatings from solvent based to water based even with the addition of the four (4) spraybooths and printer. Thus, a new Condition D.1.3 (PSD Minor Limit) is being added to the permit. The rest of Section D.1 will be re-numbered accordingly.

D.1.3 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

The VOC emissions from the entire source shall be limited to 249 tons of VOC, including coatings, dilution solvents, and cleaning solvents, per 12 consecutive month period. This limit is required to limit the potential to emit of VOC to less than 250 tons per 12 consecutive month period. Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.

Section D.1.7 (now re-numbered D.1.8) has been revised.

D.1.~~7~~**8** Particulate Matter (PM)

(a) The dry filters for PM control shall be in operation at all times when the spray booths are in operation.

(b) The dry filters shall be in operation at all times the four spray booths (Spraybooth #1, Spraybooth #2, Spraybooth #3 and Spraybooth #4) are in operation.

A new Condition D.1.11 has been added to require reporting for the four (4) new spray booths.

D.1.11 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.2(d) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

The Part 70 Quarterly Report has been deleted from the permit because the portable spray booth (SB-4) is being replaced by the four (4) new spray booths. A new Part 70 Quarterly Report for the four (4) new spray booths is being added to the permit.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Quality (OAQ) Part 70 Application Form GSD-08.

(a) This source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Clean Air Act Amendments.

(b) See attached calculations for detailed air toxic calculations (Appendix A, page 2).

Conclusion

The construction and operation of this wood door milling and surface coating manufacturing plant shall be subject to the conditions of the attached proposed **Significant Source Modification No. 099-13603-00004.**.

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Company Name: Doorcraft of Indiana
Address City IN Zip: 2526 North Western Avenue, Plymouth, IN 46563
CP: 099-13603
Plt ID: 099-0004
Reviewer: NH/EVP

Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
Spraybooth #1																
Sealer	8.57	67.38%	59.6%	7.75%	61.35%	30.12%	0.00200	10672.000	1.72	0.66	14.18	340.23	62.09	65.34	2.21	75%
White Enamel	10.23	53.34%	50.9%	2.48%	62.47%	34.25%	0.00400	10672.000	0.68	0.25	10.83	259.92	47.44	223.12	0.74	75%
Spraybooth #2																
Glaze	12.43	47.54%	47.5%	0.02%	70.92%	29.04%	0.00200	10672.000	0.01	0.00	0.05	1.27	0.23	152.40	0.01	75%
Spraybooth #3																
Toner	8.57	67.38%	59.6%	7.75%	61.35%	30.12%	0.00200	10672.000	1.72	0.66	14.18	340.23	62.09	65.34	2.21	75%
Spraybooth #4																
Topcoat	8.57	67.38%	59.6%	7.75%	61.35%	30.12%	0.00200	10672.000	1.72	0.66	14.18	340.23	62.09	65.34	2.21	75%
Printer																
Inks	12.74	45.73%	39.7%	6.02%	60.74%	28.79%	0.00002	10672.000	1.95	0.77	0.16	3.73	0.68	0.00	2.66	100%
Ink Vehicle	8.11	89.35%	82.6%	6.72%	83.42%	9.07%	0.00008	10672.000	3.29	0.54	0.44	10.47	1.91	0.00	6.01	100%
State Potential Emissions			**Add worst case coating to all solvents**								**43.17**	**1036.16**	**189.10**	**506.20**		

Controlled Potential Emissions

	Control Efficiency PM	Controlled PM tons/yr
Total Controlled Potential Emissions:	99.50%	**2.53**

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

Appendix A: Emission Calculations

HAP Emission Calculations

Company Name: Doorcraft of Indiana
Address City IN Zip: 2526 North Western Avenue, Plymouth, IN 46563
CP#: 099-13603
Plt ID: 099-0004
Permit Reviewer: NH/EVP

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Glycol Ethers	Ethers Emissions (ton/yr)
Printer					
Inks	12.74	0.000019	10672.00	3.30%	0.37
Ink Vehicle	8.11	0.000075	10672.00	3.30%	0.94

Total State Potential Emissions **1.31**

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs